ENABLING THE NEW ENERGY PARADIGM

August 2020

TSX-V: PLU | OTCQB: PLUUF
Disclaimer

This presentation is provided for informational purposes only and the opinions expressed are based upon Plateau Energy Metals Inc.'s ("Plateau" or the "Company") analysis and interpretation and are not to be construed as a solicitation or offer to buy or sell the securities mentioned herein. The particulars contained or incorporated by reference in this presentation were obtained from sources which we believe reliable but are not guaranteed by us and may be incomplete. This presentation includes forward-looking information or forward-looking statements including, without limitation, the future performance of Plateau's business and financial performance and condition, as well as management's current objectives, strategies, beliefs and intentions with respect to the Falchani lithium project and the Macusani uranium project (collectively, the "Projects") that involve risks, uncertainties and other factors that could cause actual results to be materially different from those expressed or implied by such forward-looking statements. All statements, other than matters of historical fact may be forward-looking statements and may include future-oriented financial information. Forward-looking statements are frequently identified by such words as "seek", "expect", "anticipate", "budget", "plan", "estimate", "continue", "forecast", "intend", "believe", "understand", "predict", "potential", "target", "may", "could", "would", "might", "will", "ongoing", "outlook", "pending", "opportunity" and similar words or phrases (including negative variations) suggesting future outcomes or statements regarding future events and results. Forward-looking information is not, and cannot be, a guarantee of future results or events. Although the Company believes that the current opinions and expectations reflected in such forward-looking statements are reasonable based on information available at the time, undue reliance should not be placed on forward-looking statements since the Company can provide no assurance that such opinions and expectations will prove to be correct. All forward-looking statements are inherently uncertain and subject to a variety of assumptions, known and unknown risks and uncertainties, including risks and uncertainties relating to the Projects respective PEA's and the results presented herein including risks and uncertainties related to but not limited to: the economics and potential returns associated with the Projects, the projected IRR and NPV, the estimation of mineral reserves and mineral resources included in the PEA's for the Projects, the technical viability of the Projects, future mining methods, future operating and capital costs, metallurgical testing and results, the future opportunities for the Projects, construction timelines, permit timelines and Plateau's ability to receive the requisite permits, delays or increased costs that may be encountered during the development process, increased competition in the market for battery-quality lithium carbonate and related products, environmental impact of the Projects, and projected employment and other social benefits resulting from the Projects. Additional potential risks include, and are not limited to, the status of the "Precautionary Measures" filed by Macusani, the outcome of the administrative process, the judicial process, and any and all future remedies pursued by Plateau and its subsidiary Macusani to resolve the title for 32 of its concessions (see Cautionary Note Regarding Administrative & Judicial Processes); the ongoing ability to work cooperatively with stakeholders, including but not limited to local communities and all levels of government; the geology, grade and continuity of mineral deposits; the possibility that any future exploration, development or mining results will not be consistent with our expectations; mining and development risks, including risks related to accidents, equipment breakdowns, labour disputes (including work stoppages and strikes) or other unanticipated difficulties with or interruptions in exploration and development; the potential for delays in exploration or development activities due to the COVID-19 pandemic; risks related to the market and future price of battery-quality lithium carbonate, sulfuric acid and other commodity prices and foreign exchange rate fluctuations; risks related to foreign operations; the cyclical nature of the industry in which we operate; risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals; risks related to environmental regulation and liability; political and regulatory risks associated with mining and exploration; risks related to the certainty of title to our properties; risks related to the uncertain global economic environment; risks related to the uncertain global economic environment and the effects upon the global market generally, and due to the COVID-19 pandemic measures taken to reduce the spread of COVID-19, any of which could continue to negatively affect global financial markets, including the trading price of the Company's shares and could negatively affect the Company's ability to raise capital. Other risks and uncertainties related to our prospects, properties and business strategy are identified in the "Risks and Uncertainties" section of Plateau's Management's Discussion and Analysis filed on January 20, 2020 and described in more detail in Plateau’s recent securities filings available at www.sedar.com. Actual events or results may differ materially from those projected in the forward-looking statements and Plateau caution against placing undue reliance thereon. Except as required by applicable securities legislation, neither Plateau nor its management assume any obligation to revise or update these forward-looking statements. This presentation summarizes information about the Company and readers are encouraged to review Plateau’s complete public disclosure.

Qualified Persons and Technical Reports

Mr. Ted O’Connor, P.Geo., a Director of Plateau Energy Metals, and a qualified person as defined by National Instrument 43-101 "Standards of Disclosure for Mineral Projects", has reviewed and approved the scientific and technical information contained in this presentation. Scientific and technical information in this presentation is based on, and further information about the Falchani Lithium and the Macusani Uranium projects is available from the following NI 43-101 Technical Reports filed on SEDAR (www.sedar.com):
1. "Mineral Resource Estimates for the Falchani Lithium Project in the Puno District of Peru" prepared by Mr. Stewart Nupen, of The Mineral Corporation, effective March 1, 2019;
2. "Falchani Lithium Project NI 43-101 Technical Report - Preliminary Economic Assessment" prepared by John Joseph Riordan, David Thompson, Valentine Cotzee of DFA Pacific and Mr. Stewart Nupen of The Mineral Corporation effective February 4, 2020; and

Mineral resources are not mineral reserves and do not have demonstrated economic value.

Cautionary Notes

PEA: The preliminary economic assessments included herein are preliminary in nature, and include inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessments will be realized. Additional work is required to upgrade the mineral resources to mineral reserves. In addition, the mineral resource estimates could be materially affected by environmental, geotechnical, permitting, legal, title, taxation, socio-political, marketing or other relevant factors. All figures in US dollars ("$"), unless otherwise noted. Economic highlights represent Plateau’s 100% interest in the Projects.

Administrative & Judicial Processes: As outlined in the July 31, 2019 and August 6, 2019 news releases, 32 of the Company’s concessions representing approximately 230 km² are in an administrative procedure to determine the validity of Macusani’s title to the concessions. The Company is pursuing legal and administrative remedies to resolve the dispute. On February 4, 2020, the Company reported that Macusani is awaiting a decision for its application for injunctive relief (a Precautionary Measure) on 15 of the 32 concessions which will restore the rights, validity and ownership to Macusani for the duration of the Processes. Injunctive relief has been granted for 17 of the concessions, including 3 of 4 incorporated in the Macusani PEA, and the rights have been restored. If the Company does not obtain a successful resolution of Processes, Macusani’s title to the Ocacasa 4 concession could be revoked and the Falchani Project would proceed as presented in the Alternative Case.
Highlights

Strong Management Team & Board
- Exploration -> development + project finance leadership
- Peruvian technical, environmental, permitting + community relations teams

Consolidated Land Package
- 100% Control: 930 km² in the world’s largest underdeveloped Lithium and Uranium districts
- Location: Macusani Plateau, Puno, Southern Peru

Excellent Infrastructure
- Labour, water and inexpensive hydro-electric power
- Transport (major highway 17km from camp)
- Reagents supply in-country (H₂SO₄)

Mining Supportive Jurisdiction
- Supportive government and local communities

*See IMPORTANT Administrative & Judicial Processes Cautionary Note on slide 2.
Exposure to Clean Tech Energy

Falchani Lithium Project
A Clean Tech Strategic Asset

- **Battery quality product** – low impurity, battery quality (99.74%) lithium chemical can be produced onsite
- **Low 2nd quartile costs** at <$4,000/t LCE (excl. potential by-products)
- **Green** – development plan integrates multiple sustainable mining initiatives
- **Scalable** – long life with a mine plan to grow as demand grows

Macusani Uranium Project
A Green Energy Enabler

- Strong and resilient project economics²
  - NPV: US$603M | IRR: 40.6% | 1.8 years payback³
- Shallow, volcanic supergene/surficial uranium deposits
- **Scalable**, flexible growth plan
- Multiple exploration targets
- Optimization plans in review

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1. See July 18, 2019 news release.
2. See IMPORTANT Cautionary Notes on slide 2.
3. Using US$50/lb uranium price. 8% discount, After-tax.
Corporate Overview

TSX-V: PLU | OTCQB: PLUUF

Market capitalization | ~C$34 million
Share price* | C$0.325

Shares outstanding*
Options | ~6.9 M @ C$0.35 – C$1.14
Warrants | ~24.6 M @ C$0.40 – C$0.90
Fully diluted | ~136.5 million

Alex Holmes
CEO & Director
- Vancouver • Capital Markets
- Project Evolution • MSc IM
- Prev. VP BD True Gold Mining

Lawrence Stefan
President, COO & Director
- Peru • Geologist
- Exploration & Dev. • PhD
- Founder since 2007

Ted O’Connor
Prof. Geologist & Director
- Saskatoon • Geologist
- Uranium Expert
- 20+ years Cameco

Philip Gibbs
CFO
- Toronto • CMA
- 30+ years financial management experience

Alan Ferry
Chair, Director
- Toronto • Geologist, Analyst
- Former Lead Director, Guyana Goldfields

Wayne Drier
Director
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- CFO, Ero Copper

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- Director, Equinox Gold, Sheritt Int’l, Pure Gold, Sigma Lithium

Christian Milau
Director
- Vancouver • Finance & Ops
- CEO, Equinox Gold

Technical Consultants

TSX-V: PLU
OTCQB: PLUUF

*as at August 4, 2020
Lithium – A Growing Need

Growing Sectors

- EV
- Mobile Devices
- Renewable Energy

Consumers Demand

- Greater Range
- Longer Runtime
- Lower Cost
- Higher Storage Capacity

Demand for lithium is growing 20% per year *

Battery-grade: +99.5%

LiOH
Lithium Hydroxide

&

Li₂CO₃
Lithium Carbonate

* Source: Benchmark Mineral Intelligence
Stage 1 Project - PEA Summary

**US$844 M**
NPV(8%)\(^1\)

**18.8%**
IRR, after-tax\(^1\)

**4.6 years**
Payback\(^1\) undiscounted

**US$3,418M**
LOM

**US$198M**
average annual LOM

**US$4,333**
per tonne

**US$587M**

**26 years**

**Production**
23,000 tpa Li\(_2\)CO\(_3\)
years 1 to 7

41,000 tpa Li\(_2\)CO\(_3\)
years 8 to 26

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1. After-tax, average annual at steady state throughput of 3mtpa, based on a selling price of $12,000/t Li\(_2\)CO\(_3\).
3. Includes: EPCM, spares, insurances, owners’ team, Process Plant Contingency of 11%, 'Infrastructure Costs (Road and TSF) inclusive of 15% contingency. 4. Steady State – battery quality Li\(_2\)CO\(_3\).
See IMPORTANT PEA Cautionary Notes on Slide 2.
Falchani Key Project Attributes

- **Scaled approach** to development allows project to grow with the market
- **High grade lithium and low impurities** allows complete onsite production that retains value chain
- **Low cost** chemical project before any by-products
- Lithium-rich sulfate process step supports **flexibility to adapt lithium chemical production for industry demand**
- Onsite acid plant provides **clean power generation** and enables **low cost reagent access**
- Inputs sourced largely in Peru **support local development** while reducing costs and value-added taxes
- Availability of contract mining **reduces CAPEX and provides flexibility** during expansion phases
- Major **contributor** to economic development in Peru of approximately $2.1 billion LOM capital investment and tax and royalty contributions estimated in excess of $5 billion*

Falchani Green Project Attributes

- Filtered tailings enables recycling of up to 90% of process water
- Dry stacking technology in order to handle safely and more securely the tailings disposal – an environmentally responsible choice
- Sulfuric acid plant on site will be self-sufficient to power entire process plant
- Access to hydro power grid available nearby
- Future development work to evaluate opportunities such as:
  - Electric mine fleet,
  - Wastewater recycling,
  - Rainwater run off storage, and
  - Low CO₂ transport and logistics for consumables
Benchmark to Peers – 2025 (estimate)

Low 2\textsuperscript{nd} Quartile Costs

Notes on cost curves:
- Total cost includes capital repayment and royalty costs
- Hard rock includes pegmatite, petalite, lepidolite, jadarite and clay resources
- For operations producing spodumene, freight costs to processing point are included, as is a conversion margin to lithium carbonate

Source: Benchmark Mineral Intelligence (December 2019)
Conventional Processing & Precipitation

- Extensive metallurgy and process engineering work supports \textit{conventional} sulfuric acid tank leaching
- Crystallization demonstrated low impurity, battery quality $\text{Li}_2\text{Co}_3$ (99.74%+)
- Lithium-rich sulfate solution offers lithium chemical end-product \textit{flexibility}

* Refer to July 18, 2019 press release
Falchani Lithium Project – 3D Overview
Falchani Lithium Exploration

Tres Hermanas

- Three ridges of outcropping Li-rich tuff, interpreted as tilted upright compared to relatively horizontal at Falchani
- South ridge estimated at ~80m high x ~750m long east-west
- Surface samples up to 4,452 ppm Li, trenching completed

Quelcaya Target

- **New discovery** area - Outcrop mapping and sampling ~6km west of Falchani deposit
- 1.5km mapped extent; sampling **average grade of 2,986 ppm Li**

Regional Targeting

- ~20 km West, multiple surface samples up to 5,100 ppm Li from large Li-rich tuff outcrop

There has been insufficient exploration to define a mineral resource for the targets disclosed herein. It is uncertain if further exploration will result in these targets being delineated as a mineral resource.
# Comparisons and Advantages

## Falchani Lithium
- Volcanic hard rock tuff lithium project
- Scalable
- Fast to product cycle
- High value end-product (not a concentrate) → 100% of the value chain

### Falchani Lithium Project

<table>
<thead>
<tr>
<th>Value Chain Capture</th>
<th>Product</th>
<th>Attributes</th>
<th>Time to Product</th>
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</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
<td>BATTERY GRADE</td>
<td>DAYS</td>
</tr>
</tbody>
</table>

- Mining
- Processing
- Mechanical evaporation
- Crystallization
- Lithium carbonate

### Brine Deposits

<table>
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<tr>
<th>Value Chain Capture</th>
<th>Product</th>
<th>Attributes</th>
<th>Time to Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
<td>TECHNICAL &amp; BATTERY GRADE*</td>
<td>16 MONTHS</td>
</tr>
</tbody>
</table>

- Brine deposit
- Pump
- Wind
- Rain
- Solar evaporation
- Crystallization
- Lithium carbonate

*Technical grade is <99.5%

### Spodumene Deposits

<table>
<thead>
<tr>
<th>Value Chain Capture</th>
<th>Product</th>
<th>Attributes</th>
<th>Time to Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>40% 60%</td>
<td></td>
<td>CONCENTRATE</td>
<td>WEEKS</td>
</tr>
</tbody>
</table>

- MINE
- PROCESSING
- Li₂O CONCENTRATE
- SHIPPING
- CONVERSION
- Lithium carbonate
- LiOH

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For illustrative purposes only. 1. See news release dated July 18, 2019
MACUSANI URANIUM PROJECT
Macusani Uranium Highlights

**Strong Project Economics**
- **NPV:** US$603M | **IRR:** 40.6% | **1.8 years** payback (AT) (1)/(2)
- Large scale: production averaging ~6 Mlbs U₃O₈ /yr over a 10-yr mine life
- PEA Mine Plan Resources: ~70 Mlbs U₃O₈ at 289 ppm
- Low Cost: ~US$17/lb LoM cash cost and ~US$18/lb LoM AISC (5)
- Low Capex: ~US$300M initial capital
- Scalable + Flexible Mine Plan

**Optimization Opportunities**
- Pre-concentration to potentially increase grade processed and incorporate additional resources into mine plan
- Tank leaching for increased recoveries
- Initial capex reductions by re-scoping to phased expansion approach

**Uranium Resources**
- **Control of All Published Uranium Resources in Emerging Uranium District**
  - **Measured & Indicated:** 52.9 Mlbs U₃O₈ (1)/(3)*
  - **Inferred:** 72.1 Mlbs U₃O₈ (1)/(4)*

**Near Surface + Leach Kinetics**
- 5 near surface deposits included in the PEA mine plan (1)
- Low life of mine strip ratio
- Hosted in porous volcanic rock -> rapid leach and low acid

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(1) See IMPORTANT Cautionary Notes on slide 2; (2) Using US$50/lb uranium price; (3) At an average grade of 248ppm (75ppm U cut off); (4) At an average grade of 251ppm (75ppm U cut off); (5) Non-IFRS reporting measure.

*Refer to the “Macusani Project, Macusani, Peru, NI 43-101 Report – Preliminary Economic Assessment” as detailed on slide 2.
Macusani Project Attributes

- **Resilient Project** low All-in Sustaining Cost\(^1\) of ~$18 per lb U\(_3\)O\(_8\)
- **High return** with an IRR over 40% and rapid payback of ~1.8 years (after-tax)\(^2\)
- **Large scale** as one of a few projects globally with over 100 million lbs U\(_3\)O\(_8\)
- **Low capex** of ~$300 million or ~$5/lb U3O8 of production life of mine
- **Scalable & Flexible** mine plan to incorporate phased expansion options, multiple pits offers flexibility
- **Contract mining** quoted at $1.85/tonne mined
- **Low strip ratio** life of mine at ~2 waste : ore
- **Low consumables** with acid consumption of ~9 kg/t mineralize material
- **Local sourcing** of consumables
- **New jurisdiction with government support** publicly stated regulatory framework for transportation and export end of 2020 (Ministry of Energy and Mines). Radioactive minerals mining and processing in existing mining law

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* Refer to NI 43-101 technical report detailed on slide 2 for complete Opex and Capex detail, filed on SEDAR Feb 10, 2016
* See IMPORTANT CAUTION regarding PEA on slide 2;
Macusani Benchmarking

4th largest M&I Resources

3rd lowest Capex intensity

3rd lowest total cash costs

Source: Eight Capital and company reports
Exploration Growth

Exploration drilling to expand resources and to increase resource confidence to indicated, including twinning and resampling work

Existing Deposits

- Targeted drilling in and around existing defined deposits
- Infill drilling in inferred deposits outside current PEA mine plan

Kihitian Complex

- Tantamaco South East - targets in between Tantamaco and Quebrada Blanca deposits
- Untested post-land consolidation of extensions to mineralized manto horizon

Regional Targeting

- +47 additional targets property wide
Project Opportunities

- **Processing**
  Tank leach option work to be advanced
  Potential for better recoveries & shorter leach cycle
  - Mid-90’s in early tests vs. 88% in PEA
  Capex/opex vs. recoveries trade-off

- **Pre-Concentration**
  Potential economic improvement with size/screen sorting
  - >85% uranium contained in 50% of mass in fine fraction
  - Potential for less material handling, higher processed grades and reduced processing throughput

- **Scalability**
  Phased expansion, smaller initial capex options to be reviewed
  - 2 to 6 Mlbs U₃O₈ annual production ranges considered previously
  - Review + engineering work in consideration

- **Growth**
  Near Mine Plan Resources*
  - 2-3 existing deposits/zones outside of current PEA to be followed up on
  - >50 million lbs excluded from current PEA

- **Project Resilience**
  High grade only option to be revisited in more detail
  Optimization work for current PEA mine plan pending finalization of transport and export regulations

- **Exploration**
  85% of exploration land package undrilled – untested targets for early follow-up
  Additional target generation (+41)

- **Tax Model**
  Currently modeled as 3% NSR in PEA
  Royalties are sliding scale based on operating margin and applied to net income

- **Permitting clarity**
  Peru team participating in ongoing discussions with Peruvian regulators around the legal framework for handling and exporting of radioactive material
  Ministry focused on permitting clarity in near-term

- **Support**
  Presidential level support to implement permitting framework for Peru’s first uranium
  Local communities in support, Baseline Study complete, ongoing monitoring as part of a project EIA process

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* See IMPORTANT Cautionary Notes on slide 2.
COMMUNITIES & SUMMARY
Host Community Initiatives

- **Local Employment**
  - Employment of local community members from Isivilla, Tantamaco, Chacaconiza, Quelcaya, Chimboy, Pacaje and Corani

- **Skills Development**
  - Drill road and platform preparation/construction
  - Camp personnel
  - Environmental monitoring

- **Safe Water**
  - Assisted establishing water treatment plant

- **Micro-Finance**
  - Loaning company owned road building equipment for local community use to improve community infrastructure

- **Education**
  - Sponsorship of educational programs in local schools
  - Support full-time teachers and continuous training support for teachers

- **Healthcare**
  - Twice yearly campaign targeting the communities we are engaged with

- **Festival Sponsorship**
  - Sponsorship of local and regional festivals and events celebrating the culture and communities in the Macusani plateau

- **Sports & Health**
  - All-weather football field in Isivilla
  - ~2 year project developing construction skills in communities

- **Nutrition**
  - Monthly school milk program sponsorship
Value Proposition

Falchani Lithium Project
A Clean Tech Strategic Asset

Strong Economics (1)
- NPV = US$844M
- IRR(8%) = 18.8%
- Payback = 4.6 yrs
- Low 2nd quartile operating costs

Growth Potential
- Multi-generational asset
- 6th largest Li deposit globally
- Resource estimate** based on only ~30% of target area

Development Potential
- Near surface deposit
- 3-phase development plan

Macusani Uranium Project
A Green Energy Enabler

Strong Economics (1)
- NPV = US$603M
- IRR(8%) = 40.6%
- Payback = 1.8 yrs
- Large, low cost

Control all U₃O₈ in Peru (2)
- M&I resources = 52.9 Mlbs U₃O₈
- Inferred resources = 72.1 Mlbs U₃O₈

Growth Potential
- Scalable, flexible mine plan
- Porous volcanic rock - rapid leach, low acid

Excellent Infrastructure
- Easy transport
- Low cost power
- Labour
- Water

Security of Supply
- Mining supportive jurisdiction
- Responsible mining practices

* Based on the Company's review of publicly available information as at March 4, 2019.
** Includes inferred resources. Refer to the Falchani NI 43-101 technical report effective March 1, 2019 & detailed on slide 2.
*** Refer to the Company's news release on July 18, 2018.
(1) See IMPORTANT CAUTION regarding PEA on slide 2; Refer to NI 43-101 technical reports detailed on slide 2.
(2) Refer to NI 43-101 technical report detailed on slide 2 - filed on SEDAR on Jun 22, 2015.
(3) At an average grade of 248ppm (75ppm U cut off).
(4) At an average grade of 251ppm (75ppm U cut off).
Stage 1 & 2 Project - PEA Summary

US$1.5 billion
NPV(8%)¹

19.7%
IRR, after-tax¹

4.7 years
Payback¹ undiscounted

US$8,977M
LOM

US$430M
average annual LOM
Cash Flow¹ after-tax

US$3,958
per tonne
OPEX²

US$587M
Initial CAPEX³

33 years
Mine Life

Production
23,000 tpa Li₂CO₃ years 1 to 7
44,000 tpa Li₂CO₃ years 8 to 12
85,000 tpa Li₂CO₃ years 13 to 33

Li₂CO₃

1. After-tax, average annual at steady state throughput of 3mtpa, based on a selling price of $12,000/t Li₂CO₃. 2. Inclusive of G&A, Mining, Processing and Tailings Handling. 3. Includes: Includes EPCM, spares, insurances, owners’ team, Process Plant Contingency of 11%, *Infrastructure Costs (Road and TSF) inclusive of 15% contingency. 4. Steady State – battery quality Li₂CO₃. See IMPORTANT PEA Cautionary Notes on Slide 2.
Falchani West – Looking N
Permitting Environment in Peru

Environmental Impact Study (EIA) to Ministry of Energy & Mines

- Builds on Exploration EIS – enhanced number of monitoring sites and frequency
- Mine, processing infrastructure & tailings design details and Construction Plan
- Includes a social relations plan/community agreement(s)
- Certification of no archaeological remains in the area
- Draft mine closure and remediation plan
- Plateau’s Environmental Baseline Study plan has been submitted and accepted by the government regulators and local communities

Water rights from the National Water Authority

Surface lands right agreements with surface owners

Approval to construct and operate